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Committee on the Peaceful Uses of Outer Space

Definition and delimitation of outer space: views of States members and permanent observers of the Committee

Note by the Secretariat

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I. Introduction

1. At the fifty-fourth session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space, held in 2015, the Working Group on the Definition and Delimitation of Outer Space agreed to invite, through the Secretariat, States members and permanent observers of the Committee to submit concrete and detailed proposals regarding the need to define and delimit outer space, or justifying the absence of such a need, or to provide the Working Group with specific cases of a practical nature relating to the definition and delimitation of outer space and the safety of aerospace operations. The Working Group also agreed that such structured, consistent and grounded contributions would be considered by the Working Group at its future meetings (A/AC.105/1090, para. 78; and annex II, para. 17 (b)). These recommendations were endorsed by the Committee, at its fifty-eighth session, in 2015 (A/70/20, para. 213).

2. The present document was prepared by the Secretariat on the basis of replies received by 27 January 2016 from Thailand, Turkey and the World Meteorological Organization. Replies received after that date will be included in addenda to the present document.

II. Replies received from member States

Thailand

[Original: English]
[2 December 2015]

Thailand is of the view that outer space should be defined in accordance with aerospace operations, to the extent that it will not prejudice national security and sovereignty of States. At this stage, the definition and delimitation of outer space should not rely on geographical considerations. Notwithstanding the foregoing, the said opinion is only the preliminary stance. It is, however, subject to future modifications.

Turkey

[Original: English]
[27 January 2016]

Turkey believes that there is a need for international regulations on the definition and delimitation of outer space.

III. Replies received from permanent observers

World Meteorological Organization

[Original: English]
[12 December 2015]

Although "space" is sometimes defined as the part of the universe "above the atmosphere", such a definition is not viewed by the World Meteorological Organization (WMO) as correct. First of all, it is in contradiction with the fact that low-orbiting spacecraft can be flying in the altitude range of the thermosphere, which is an atmospheric layer. Furthermore, important space weather processes are occurring in the "geospace", which may be defined as the region of space including thermosphere, ionosphere and magnetosphere, where the solar wind interacts with the upper atmosphere and the Earth's magnetic field. From both the operational and the scientific viewpoints, there is thus a strong case for considering that the lower boundary of "space" must be low enough to include the thermosphere.

The thermosphere starts at the mesopause (around 80 kilometres altitude), which is also the lower limit of the "upper atmosphere" as defined in the International Meteorological Vocabulary (WMO No. 182). Considering this level as the lower boundary of space would be consistent with the theoretical consideration of the limit between the domains of aerodynamic flights and orbital flights, referred to as the Kármán line, which happens to be in the same altitude range.

WMO therefore would like to suggest the following definition of "space": the unlimited part of the universe starting with the upper atmosphere and extending above the atmosphere.